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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/646,430

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Brandon Stuart Burroughs

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

11/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/646,430	BURROUGHS, BRANDON STUART	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeff Piziali	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 October 2007 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-11, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hughes et al (US 5,754,655 A)* in view of *Griffin et al (US 6873317 B1)*.

Regarding claim 1, Hughes discloses a keyboard [Fig. 11; 14] for a mobile phone [Fig. 11; 310 & Fig.13; 402 & 404] including a display [Fig. 11; 12], the keyboard configured for use with thumbs of a user and comprising: a left set of one or more rows of input keys [Fig. 11; Q, A, Z] and a right set of one or more rows of input keys [Fig. 11; P, L, M] separated by a centerline [Fig. 11; vertical line dividing the device 300 in half], the left set of one or more rows of input keys including a top row [Fig. 11; Q, W E, R, T] with a right-most key [Fig. 11; T], the right set

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of one or more rows of input keys including a top row [Fig. 11; Y, U, I, O, P] with a left-most key [Fig. 11; Y], and the right-most key of the top row of the left set of one or more rows of input keys being immediately adjacent to the left-most key of the top row of the right set of one or more rows of input keys, the left set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and the right set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and a substantially rectangular numeric keypad [Fig. 11; 16] including a plurality of phone number input keys [Fig. 11; 0-9] that together are arranged in a rectangular configuration for entering phone numbers centered below, and distinct from, the left and right sets of one or more rows of input keys, wherein the left set of one or more rows of input keys and the right set of one or more rows of input keys are sandwiched between the display and the substantially rectangular numeric keypad (see Column 9, Lines 8-51).

Although one having ordinary skill in the art would probably recognize that Hughes' left and right sets of one or more rows of input keys are arranged in one or more respective arcs; should the applicant argue convincingly that such subject matter is not taught by Hughes with sufficient specificity, Griffin does disclose a keyboard for a mobile phone including a display (see Fig. 2), the keyboard configured for use with thumbs of a user and comprising: a left set of one or more rows of input keys [Fig. 9; Q, A, Z] and a right set of one or more rows of input keys [Fig. 9; P, L, M] separated by a centerline, the left set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and the right set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline;

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and a substantially rectangular numeric keypad including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers distinct from the left and right sets of one or more rows of input keys (see Column 9, Lines 7-18).

Hughes and Griffin are analogous art, because they are both from the shared field of electronic data entry and display devices utilizing QWERTY style keyboards for mobile phones.

Firstly, it would have been obvious to one having ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, so as to make use of an alternate, standard keyboard layout that is comfortable for the user, enabling efficient and user-friendly data entry (see Griffin, Column 4, Lines 18-21).

Secondly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thirdly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because the substitution of one known QWERTY keyboard arrangement for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Fourthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes'

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QWERTY keyboard, because the technique for improving this particular class of device (e.g., QWERTY keyboards) was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

Fifthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because this particular known technique (i.e., arching QWERTY keyboard layouts) was recognized as part of the ordinary capabilities of one skilled in the art.

Sixthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

Seventhly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because design incentives or market forces provided a reason to make an adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

Regarding claim 2, Hughes discloses a QWERTY keyboard layout (see Fig. 1).

Additionally, Griffin discloses a QWERTY keyboard layout (see Fig. 9).

Regarding claim 4, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are concentric and the one or more respective arc centers of the right set of one or more rows of input keys are concentric (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are concentric and the one or more respective arc centers of the right set of one or more rows of input keys are concentric (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 5, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and the one or more respective arc centers of the right set of one or more rows of input keys are collinear (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and the one or more respective arc centers of the right set of one or more rows of input keys are collinear (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 6, this claim is rejected by the reasoning applied in rejecting claim 5; furthermore, Hughes discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line and the one or more respective arc centers of the right set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and located in at least one of a vertical line and a horizontal line and the one or more respective arc centers of the right set of one or more rows of

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input keys are collinear and located in at least one of a vertical line and a horizontal line (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 7, Hughes discloses the respective arcs of the left set of one or more rows of input keys and the respective arcs of the right set of one or more rows of input keys include radii of curvature between 10 mm and infinity (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the respective arcs of the left set of one or more rows of input keys and the respective arcs of the right set of one or more rows of input keys include radii of curvature between 10 mm and infinity (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 8, Hughes discloses the arcs of the left set of one or more rows of input keys and the arcs of the right set of one or more rows of input keys form respective angles between 0 and 90 degrees with respect to the centerline (see Fig. 1; Column 9, Lines 8-51).

Additionally, Griffin discloses the arcs of the left set of one or more rows of input keys and the arcs of the right set of one or more rows of input keys form respective angles between 0 and 90 degrees with respect to the centerline (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 9, Hughes discloses each row of the one or more rows of each set include a left-most input key [Fig. 1; Q] and a right-most input key [Fig. 1; P], the left set of one or more rows are opposite the right set of one or more rows (see Column 9, Lines 8-51), and lines drawn through the left-most input key and the right most input key of opposite rows intersect the centerline to form a V shape (see Fig. 1).



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Additionally, Griffin discloses each row of the one or more rows of each set include a left-most input key [Fig. 9; Q] and a right-most input key [Fig. 9; P], the left set of one or more rows are opposite the right set of one or more rows (see Column 9, Lines 7-18), and lines drawn through the left-most input key and the right most input key of opposite rows intersect the centerline at one or more points adjacent to the left-most input key and the right-most input key to form a V shape (see Fig. 9).

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claims 1 and 9.

Regarding claim 11, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 13, this claim is rejected by the reasoning applied in rejecting claim 8.

Regarding claim 14, this claim is rejected by the reasoning applied in rejecting claim 1.

Regarding claim 15, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 16, this claim is rejected by the reasoning applied in rejecting claims 1 and 9; furthermore, Hughes discloses providing a thumb keyboard [Fig. 1; 14]; using only the left thumb to input information into the mobile phone using the left set of one or more rows of input keys; using only the right thumb to input information into the mobile phone using the right set of one or more rows of input keys (see Column 9, Lines 8-51).

Additionally, Griffin discloses providing a thumb keyboard; using only the left thumb to input information into the mobile phone using the left set of one or more rows of input keys; using only the right thumb to input information into the mobile phone using the right set of one or more rows of input keys (see Fig. 9; Column 9, Lines 7-18).

Regarding claim 17, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 18, this claim is rejected by the reasoning applied in rejecting claim 8.

Regarding claim 19, this claim is rejected by the reasoning applied in rejecting claim 1.

Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claim 7.

#### ***Response to Arguments***

4. Applicant's arguments filed 30 October 2007 have been fully considered but they are not persuasive.

The applicant contends the cited prior art of Hughes does not teach a mobile phone, a thumb keypad, right and left sets of keys arranged in one or more arcs with respective arc centers to the left and to the right of a centerline (see Pages 8-10 of the Amendment filed 30 October 2007). However, the examiner respectfully disagrees.

Claim 1 of Hughes claims "a portable terminal" (see Column 14, Line 31) as well as a "cellular phone" (see Column 14, Line 40). As another example, Figure 13 illustrates a slightly

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more portable version of Hughes's mobile phone (see Column 10, Line 61 - Column 11, Line 16).

Furthermore, there exists no teaching within Hughes which would prevent, limit, or discourage a user from using their thumbs to operate the alphanumeric keypads. The applicant is respectfully invited to explain why he is of the position that one skill in the art would not consider Hughes keypads to be operable by a user's thumbs. However, it is also respectfully noted here that the secondary prior art reference of Griffin explicitly discloses thumb keypad operation (see the Abstract).

Although one having ordinary skill in the art would probably recognize that Hughes' left and right sets of one or more rows of input keys are arranged in one or more respective arcs divided by a vertical centerline; should the applicant argue convincingly that such subject matter is not taught by Hughes with sufficient specificity, Griffin does disclose a keyboard for a mobile phone including a display (see Fig. 2), the keyboard configured for use with thumbs of a user and comprising: a left set of one or more rows of input keys [Fig. 9; Q, A, Z] and a right set of one or more rows of input keys [Fig. 9; P, L, M] separated by a centerline, the left set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and the right set of one or more rows of input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and a substantially rectangular numeric keypad including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers distinct from the left and right sets of one or more rows of input keys (see Column 9, Lines 7-18).

The applicant next argues that the cited prior art of Griffin does not disclose a mobile phone; right and left sets of keys where lines drawn through the left-most key and the right-most key of right/left sets intersect the centerline, immediately adjacent the left-most key of the right set and the right-most key of the left set, to form a V shape; and/or a substantially rectangular numeric keypad (see Page 10 of the Amendment filed 30 October 2007).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In this instance, Hughes discloses the left set of one or more rows of input keys including a top row [Fig. 11; Q, W E, R, T] with a right-most key [Fig. 11; T], the right set of one or more rows of input keys including a top row [Fig. 11; Y, U, I, O, P] with a left-most key [Fig. 11; Y], and the right-most key of the top row of the left set of one or more rows of input keys being immediately adjacent to the left-most key of the top row of the right set of one or more rows of input keys; and a substantially rectangular numeric keypad [Fig. 11; 16] including a plurality of phone number input keys [Fig. 11; 0-9] that together are arranged in a rectangular configuration for entering phone numbers centered below, and distinct from, the left and right sets of one or more rows of input keys, wherein the left set of one or more rows of input keys and the right set of one or more rows of input keys are sandwiched between the display and the substantially rectangular numeric keypad (see Column 9, Lines 8-51).

Additionally, Griffin discloses the left set of one or more rows of input keys including a top row [Fig. 9; Q, W E, R, T] with a right-most key [Fig. 9; T], the right set of one or more rows of input keys including a top row [Fig. 9; Y, U, I, O, P] with a left-most key [Fig. 9; Y], and the

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right-most key of the top row of the left set of one or more rows of input keys being immediately adjacent to the left-most key of the top row of the right set of one or more rows of input keys.

Furthermore, Griffin expressly teaches his invention being applicable to a mobile cell phone (see Column 6, Line 29)... As does Hughes teach the same (see Column 14, Line 40).

In response to applicant's argument that there is no suggestion to combine the references (see Page 11 of the Amendment filed 30 October 2007), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Hughes and Griffin are analogous art, because they are both from the shared field of electronic data entry and display devices utilizing QWERTY style keyboards for mobile phones.

Firstly, it would have been obvious to one having ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, so as to make use of an alternate, standard keyboard layout that is comfortable for the user, enabling efficient and user-friendly data entry (see Griffin, Column 4, Lines 18-21).

Secondly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because all the claimed elements were known in the prior art and one

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skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thirdly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because the substitution of one known QWERTY keyboard arrangement for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Fourthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because the technique for improving this particular class of device (e.g., QWERTY keyboards) was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

Fifthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because this particular known technique (i.e., arching QWERTY keyboard layouts) was recognized as part of the ordinary capabilities of one skilled in the art.

Sixthly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

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Seventhly, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute Griffin's arched QWERTY keyboard arrangement in the place of Hughes' QWERTY keyboard, because design incentives or market forces provided a reason to make an adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Piziali  
26 November 2007